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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,102	02/13/2004	Sun Jin Yun	123056-05004443	4540
43569	7590	07/03/2007		
MAYER, BROWN, ROWE & MAW LLP 1909 K STREET, N.W. WASHINGTON, DC 20006			EXAMINER DIAZ, JOSE R	
			ART UNIT 2815	PAPER NUMBER
			MAIL DATE 07/03/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/777,102	YUN ET AL.	
	Examiner	Art Unit	
	José R. Díaz	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurtz et al. (US Pat. No. 5,286,671).

Regarding claim 1, Kurtz et al. teaches a substrate with a microstructure formed thereon, the substrate comprising:

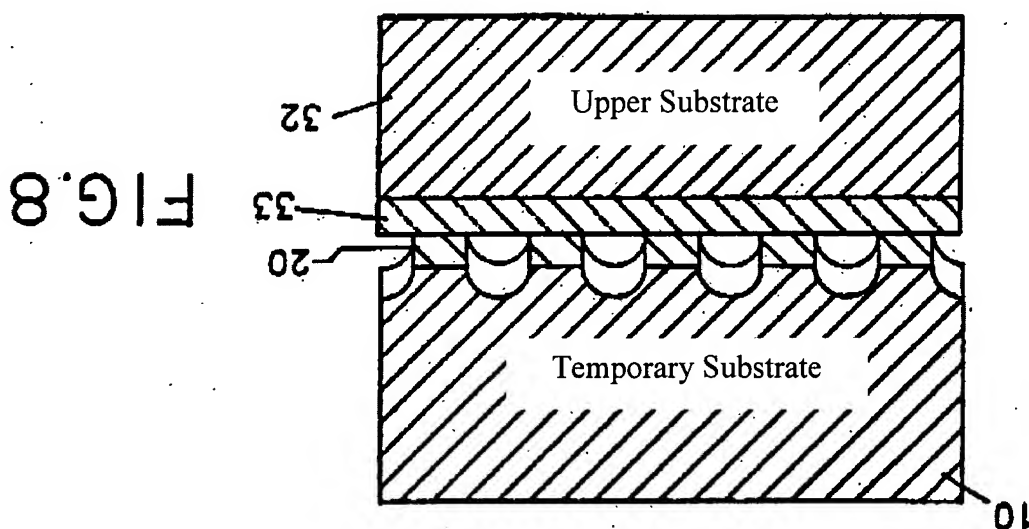
a temporary substrate (10) supporting an upper substrate (32) [see fig. 8, below];
a buffer layer (20) formed on an upper surface of the temporary substrate to have a plurality of shapes with air gaps (openings) defined between each of said shapes and spaced apart from each other at regular intervals [see fig. 8, below]; and

an adhesive layer (33) formed between the upper substrate and the buffer layer so that the upper substrate is adhered to the temporary substrate by the adhesive layer and the buffer layer [see fig. 8, below];

wherein the upper substrate (32) is thin relative to the temporary substrate, and has a substantially higher flexibility than that of the temporary substrate, and on which a device is formed [col. 5, lines 15-20];

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the temporary substrate along with the air gaps is adapted to be removed from the upper substrate after the manufacturing process of the device; and the air gaps facilitate the removal of the temporary substrate. With regards to the "adapted to" limitation, it has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison* 69 USPQ 138 (CCPA 1946).



Regarding claim 2, Kurtz et al. teaches that the temporary substrate is made of at least one of Si [see col. 5, lines 15-18].

Regarding claim 3, Kurtz et al. teaches that the buffer layer is made of SiO₂ [col. 3, lines 59-60].

Regarding claim 4, Kurtz et al. teaches that the buffer layer (20) is patterned and etched to form a plurality of shapes arranged in many rows or to form a plurality of shapes arranged in hexahedron or cylindrical islands, with air gaps being spaced apart from each other at regular intervals [see fig. 8].

Regarding claim 5, Kurtz et al. teaches the adhesive layer is made of organic film, to withstand a hot process of more than 100.degree. C [see col. 5, lines 24-26].

Regarding claim 6, Kurtz et al. teaches the upper substrate is made of silicon [see col. 5, lines 15-18].

Regarding claim 13, Kurtz et al. teaches a substrate with a microstructure formed thereon, the substrate comprising:

a temporary substrate (10,20) having an upper surface and a lower surface, said upper surface defining a plurality of projections [see fig. 8, above]; and

an adhesive layer (33) adhering a lower surface of an upper substrate to the lower substrate along said projections [see fig. 8, above];

wherein, a plurality of air gaps (opening) are defined in between each of said projections, thereby minimizing stress applied to the upper substrate and the lower substrate during a manufacturing process of a semiconductor device or the like [see fig. 8, above].

Regarding claim 14, Kurtz et al. teaches that temporary substrate (10) is a multi layer structure (20, 10) [see fig. 8].

Response to Arguments

3. Applicant's arguments with respect to claims 1-6 and 13-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references teach air gaps formed within the substrate: Fukumi (US 6,812,508 B2), abstract; Teresawa (US 5,702,962), abstract; Doyle et al. (US 5,863,832), abstract.

Correspondence


Any inquiry concerning this communication or earlier communications from the examiner should be directed to José R. Díaz whose telephone number is (571) 272-1727. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

José R. Díaz
Examiner
Art Unit 2815


JEROME JACKSON
PRIMARY EXAMINER